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Introduction: Avoiding Dutch Disease and Bad Policy Choices

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INTRODUCTION:
AVOIDING DUTCH DISEASE AND BAD POLICY CHOICES

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As I write this introduction in April 2012, North Dakota recently surpassed California to rank third in oil production in the United States.

Energy is now even more important to the state's economy than two years ago when the prior symposium issue was published. At this time, oil is the critically important energy resource. Gas, which is flared at rates that make western North Dakota appear as a large city at night in satellite photos, will become an increasingly important resource as additional gas-handling facilities are constructed. Associated gas — gas produced along with oil — is now plentiful, and more and more of it is saved instead of flared. Even dry gas wells, which continue to be a regrettable short term investment, may become an increasingly important resource.

Although North Dakota lignite coal steadily provides energy for electricity generation, coal is a comparatively dull resource when compared today with oil and gas. This is in stark contrast to how coal was viewed during the last energy boom of the 1970s and early 80s. North Dakota wind energy, which is touted as "green" but requires a large footprint and is not accommodating to some other land uses, continues to depend on government incentives to compete with other sources of electricity. Wind, like solar, will be a minor player in satisfying the nation's energy needs, but every little bit helps, and politicians like to state their support for wind and solar energy to offer the appearance of being green and to puff the idea of "energy independence."

Energy independence in the United States is no longer merely a dream, and North American independence is also quite feasible. The independence could even last for decades if the United States develops its shale oil, gas, and deep offshore resources; if Mexico continues its slow pace toward encouraging foreign investment in its upstream oil and gas sector; and if Canada continues to develop its tar sands and sends the tar sands crude oil south instead of to China. Indeed, if it were possible for states and

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Canadian provinces to engage in foreign affairs, North Dakota and Alberta might consider becoming members of OPEC! While every United States President since Richard Nixon has promoted the idea of energy independence, none will deserve any real credit — credit rather belongs to geologists, engineers, and "techies" — except perhaps for a small nod to the comparatively pro-drilling policies of the George W. Bush administration.

The impact of this most recent oil boom is being felt throughout North Dakota, but most obviously in the western part of the state. The news is not all good, which is not unusual for oil booms. This same oil boom experience has been repeated in many counties since the initial boom in Titusville, Pennsylvania; beginning in 1859. In the midst of such frenzy, governments — and voters — often forget every boom is inevitably followed by a bust. Of course, some busts are softer and more gradual than others.

The opportunity for sustained oil and gas activity in North Dakota — perhaps lasting for a few decades — seems likely at the moment. The current drilling frenzy is due in part because oil and gas lessees must drill a well on leased acreages before the lease primary terms expire. In some instances, more than one well must be drilled due to specially drafted "retained-acreage" amendments inserted at the demand of lessors. Many of these leases will be saved, but perhaps not all. Leases that are not saved may trigger a secondary drilling effort within a few years, but the next round of drilling will not be as hectic as the current one because the oil region will be better prepared. Nevertheless, if oil prices remain high enough, thousands of new wells will likely be drilled in western North Dakota in the coming decades.

If oil prices collapse, the current oil boom will turn into a bust. As of this writing, a bust seems unlikely, but that is what everyone thought in the early 1980s, during the last energy boom, which came to an abrupt end by 1984. In any event, slowing the current boom through slowing the well-permitting process would result in costly litigation over the issue of lease expiration, as lessees would undoubtedly argue regulatory force majeure to extend their leases. On balance, the best approach is probably to ride out the storm.

The current boom is producing unfortunate signs of foolish "tax reform," where tax reformers complain of bloated government coffers, arguing for reduction or elimination of state and local taxes — sometimes even including oil and gas production taxes. There are also indications the boom is causing Dutch Disease, as occurred in the Netherlands. Dutch Disease manifests itself when oil investment causes local inflation, which makes it difficult, if not impossible, for other business sectors to remain

competitive. Costs for housing, goods, services, labor, and trucking rapidly increase in all sectors of the local economy. Local governments struggle to meet the demand for government services, including law enforcement, water, sewage, streets, roads, and schools. Utilities are pressed to supply services. The end result is an oil boom may actually do about as much harm as good.

Dutch disease, if managed properly, can be a short-term problem. So-called tax reform creates the potential for long-term damage. As I write this introduction, results of the effort to repeal property taxes in North Dakota are unknown. If the repeal is passed, then, once again, North Dakota will have largely squandered the long-term benefits of fossil-fuel development for the dubious benefits of a short-term tax holiday. Because the value — and hence taxable value — of agricultural land has increased dramatically in North Dakota, farmers are likely to view relief from property taxes as an inviting prospect, but we should all hope that North Dakota will avoid becoming overly dependent upon oil and gas production taxes.

No matter how plentiful, fossil fuels are "wasting" assets, and production — and income — will not go on indefinitely. Smart nation-states establish long-term "sovereign wealth" funds held in trust to replace wasting assets. Unfortunately, some of these smart governments foolishly utilize these funds, spending money on projects that appear politically attractive at the time but offer little or no long-term benefits. For example, in Luanda, Angola, the government has spent hundreds of millions of dollars on a new football (soccer) stadium, government buildings, and on a mausoleum for its revolutionary hero, Agonisto Neto, but has spent little on education, housing, and medical care.

Can North Dakota learn from the mistakes of others? Yes, as examples of bad petroleum management abound on every inhabited continent. We need only look to the Netherlands to see how the famous Dutch tulip industry was nearly destroyed in the 1980s by Dutch disease. Here in the United States, Texas, which has some of the worst primary and secondary schools in the nation, sacrificed much of its oil and gas wealth to dubious tax reform and now has extraordinarily high property taxes, although no state income tax.

Can North Dakota learn from the success of others? Yes. Norway avoided both Dutch Disease and tax reform. Norway has a large sovereign wealth fund, which will likely allow Norwegians to enjoy a high quality of life long after North Sea oil and gas resources have been extracted. Norway also has a goals-based regulatory policy that, thus far, has helped prevent any major oil catastrophes, such as the Macondo blowout and oil spill.

I do not want to sound or be pessimistic. Oil and gas wealth, if properly managed and invested, can certainly provide a lasting legacy of benefits to states that manage this wealth properly. I am not suggesting that North Dakota is mismanaging its hydrocarbon wealth, but the potential for mismanagement is always present. Oil can be a curse,[1] if mismanaged, or a blessing, if managed wisely. The current oil boom will not last forever — a few decades at most — and unforeseen events could bring this boom to an abrupt end in a much shorter time.

Agricultural production can provide both a present and a long-term future. Current oil production can provide for the needs of the state both now and well into the future, if the resource is properly produced and properly managed and if the revenues are properly invested. I hope North Dakota's politicians and voters will be wise enough to consider not only the present, but the future.

Other major issues facing the oil and gas industry include hydraulic fracturing (fracking) and oil spills. Oil and gas are high-risk enterprises, including high environmental risks. These risks cannot be eliminated, and they can be controlled only through robust risk management, and yes, regulation. A fair but tough conservation regulatory agency is the oil and gas industry's best friend because regulation levels the playing field so operators who might be willing to take risky shortcuts are legally prohibited from doing so. Of course, without sufficient regulatory personnel to monitor the behavior of operators, the conservation regulatory agency must be willing to come down hard on an operator who violates the rules. Robust regulation without robust enforcement is of little value.

Unfortunately, attacking regulation and grossly underfunding regulatory agencies are now politically fashionable. Some of these political attacks are warranted when agencies adopt regulations designed more to halt rather than to regulate; "appearance" regulation does little more than increase costs of operation.

Historically, conservation laws and regulations were vital to the health of the oil industry. Indeed, conservation laws and regulations actually saved the oil and gas industry from bankruptcy in the 1930s. Fortunately, North Dakota had comprehensive oil and gas conservation laws a decade before oil was discovered in the state in 1951. In contrast, Pennsylvania has been producing oil since 1859, but it has yet to enact a comprehensive

1. Juan Pablo Pérez Alfonso, a prominent Venezuelan diplomat and founding father of OPEC famously said: "I call petroleum the devil's excrement. It brings trouble . . . Look at this locura—waste, corruption, consumption, our public services falling apart. And debt, debt we shall have for years." Seth Delong-Coha, *Venezuela's Agrarian Land Reform: More Like Lincoln Than Lenin*, VENEZUELANALYSIS.COM (Feb. 25, 2005), http://venezuelanalysis.com/analysis/963.

conservation act that includes effective well spacing and pooling or a sensible oil and gas production tax.

Hydraulic fracturing poses little risk of groundwater pollution from actual fracturing. The likelihood of "frack fluids" migrating into freshwater zones through fractures created by the fracturing operation is very remote. In fact, the Environmental Protection Agency (EPA) has recently dropped charges that fracking had resulted in groundwater contamination west of Fort Worth in the Barnett Shale.[2] So far, the EPA's investigation of water-well contamination near Dimock, Pennsylvania, has also failed to raise any real concerns about fracking.[3] The EPA has made a preliminary finding of water contamination by fracking near Pavillion, Wyoming, but this finding was released before it was peer reviewed and amid allegations the EPA's own test drilling was the source of the contamination.[4]

Nevertheless, other bad things could happen if best practices are not followed. First and foremost, a wellbore might be badly cemented. On rare occasions, the cement surrounding the wellbore may fail to isolate the wellbore from surrounding rock. Consequently, wellbore fluids—not limited to frack fluids—could escape the wellbore and potentially contaminate groundwater resources. Second, abandoned but improperly plugged wellbores could provide a channel for frack fluids to travel into non-targeted formations, but this is unlikely to occur in North Dakota, where plugging regulations pre-date the discovery of oil in the state. Earthquakes, although not a pollution risk, are a third concern. In some areas, small earthquakes can occur when fluid disposal wells are over-pressured in an effort to force more fluids into the disposal formation. This problem has occurred in Arkansas, but not in North Dakota. Note that hydraulic fracturing is not directly to blame for any of these problems. The

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2. Paula Dittrick, *EPA Drops Texas Water Contamination Case Against Range*, OIL & GAS J., Apr. 3, 2012, http://www.ogj.com/articles/2012/04/epa-drops-texas-water-contamination-case-against-range html?cmpid=EnlLNGApril102012.

> TRC [Texas Railroad Commission] investigators said geochemical testing indicated gas in the water wells was not from the Barnett shale formation but from the shallower Strawn gas field. Range drilled in the Barnett shale.
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> . . . .
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> Range and others investigating the incident suggest the water contamination stemmed from many houses relying upon a shallow drinking water aquifer. Water demand lowered water levels and hydrostatic pressure, allowing gas to flow into the aquifer.

Id.

3. Nick Snow, *Second Dimock Drinking Water Tests Show No Health Concern, EPA Says*, OIL & GAS J., Apr. 10, 2012, http://www.ogj.com/articles/2012/04/second-dimock-drinking-water-tests-show-no-health-concern-epa-says.html.

4. Jeffrey Folks, *Is the EPA Just Sloppy, or Cooking the Books?*, AM. THINKER, Apr. 10, 2012, http://www.americanthinker.com/2012/04/is_the_epa_just_sloppy_or_cooking_the_books.html. When this introduction was written, the allegations the EPA's own test drilling was the source of the contamination were not yet reported by the mainstream press.

real but rare problems are with cementing, improperly plugged wells, and disposal operations.[5]

While the recent trend toward the public disclosure of frack fluid contents provides some transparency, the post-fracking contents of frack fluids after their withdrawal from the fracked formation are a more serious concern. In addition, the large volume of freshwater used to frack wells is a concern in arid areas. The keys to both of these problems are confinement, recycling, and reuse of frack fluids, and ultimately, the proper disposal of these fluids into deep disposal wells.

The world economy will remain heavily dependent upon fossil fuels for the next fifty years or more. Indeed, perhaps non-reliance on fossil fuels may always be fifty years away! Due to this dependence, shale oil, gas, and deepwater resources must be developed to maintain economic growth. Unless technology can be developed to produce shale oil and gas without hydraulic fracturing, fracking will continue because development simply must continue in order to meet the energy demands of the world.

Meaningful regulations guarding against the undesirable side effects of fracking makes sense, but the regulations must be tailored to particular circumstances. The risks associated with fracking in the Williston Basin are different from those in Arkansas or in Pennsylvania. A one-size-fits-all approach will raise the cost of producing shale oil and shale gas resources without addressing the peculiar circumstances of particular hydrocarbon basins. On the other hand, legislatively declaring hydraulic fracturing to be in the public interest, as the North Dakota legislature has done,[6] accomplishes nothing of substance.

This symposium addresses several important topics. Professor Joshua Fershee's article addresses some of the same concerns I have mentioned above. Professor Fershee's suggestion that unmanned aircraft could play a regulatory monitoring role is particularly interesting. Regrettably, Professor Fershee and his spouse, Professor Kendra Fershee, were enticed by West Virginia University, and recently departed the University of North Dakota (UND). New ideas within the natural resources field could benefit North Dakota greatly in the long-term; funding to retain qualified people with a keen interest in natural resources should be a high priority for the State of North Dakota.

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5. *See generally* CHARLES G. GROAT & THOMAS W. GRIMSHAW, THE ENERGY INST., FACT-BASED REGULATION FOR ENVIRONMENTAL PROTECTION IN SHALE GAS DEVELOPMENT 34-37 (Feb. 2012) (discussing the various regulation or policy topics related to environmental impacts of shale gas development).

6. N.D. CENT. CODE § 38-08-25 (Supp. 2011).

Professor Robert Beck is another law professor with natural resource expertise, who was lured away from UND. He is a model professor—respected, revered, and feared by all of his students, including myself. His article provides lawyers and policymakers with an excellent review of North Dakota water law in light of the unique water demands of the oil and gas industry. Unlike most water users, the oil industry may require large amounts of water for short periods to facilitate drilling and fracking, although non-potable water may suffice for certain applications.

Joshua Swanson's article is a "must read" for any lawyer who may be asked to review a lease by a land or mineral owner. Many land and mineral owners foolishly fail to seek legal advice before signing an oil and gas lease, an instrument that may endure for decades, and which can be changed only by mutual agreement. Litigating oil and gas lease disputes is expensive, time consuming, and seldom successful for lessors. Thus, the best opportunity a lessor has to secure favorable treatment is when the lease is negotiated. The most important provisions for lessors are favorable royalty provisions and "retained-acreage" clauses, which can be drafted to subdivide the lease both vertically and horizontally. The fraction of the royalty is only a small part of royalty negotiation, a truism that will become more apparent to royalty recipients as the state's extensive associated natural gas resources are commercially exploited.

The granting clause should not authorize the lessee to use the leased premises to develop neighboring lands, to store gas, or to exploit anything other than oil and gas, and the lessor should not warrant title. In addition, the pooling clause of the lease should be deleted or limited, and under no circumstances should a lessor sign a lease that allows the lessee to unitize or communitize the lease. The most important tips for lawyers are they should not deliver an executed lease in return for a so-called "sight draft" and a client should not sign any additional documents, such as a division order or surface use agreement, without having a lawyer review.

Professor Raymond Cross ably discusses the challenges facing the Three Affiliated Tribes in managing the development of oil and gas resources on their reservation. His introductory reference to the devastating impact of the Garrison Dam reservoir on the tribes' economy and culture is a reminder that not all economic development is positive. Garrison Dam has done more harm than good to North Dakota. This is especially so for North Dakota Indians. The management of the water levels behind both the Garrison and Oahe Dams has harmed North Dakota's economy immensely while offering dubious navigational benefits to cities and commercial enterprises along the Mississippi River. Even the dam's primary purpose of providing flood control has been only partially successful. If the Three

Affiliated Tribes are to truly benefit from oil and gas development, I agree with Professor Cross the Tribes should establish a sovereign wealth fund to facilitate long-term economic and cultural stability. On the regulatory front, I respectfully suggest the renewal — at least for the immediate future — of the agreement the Tribes had with the state to allow the State to regulate oil and gas development throughout the Reservation.

This renewed relationship could include a training arrangement whereby young tribal members could learn from and then assist state inspectors with the view toward the Tribe taking over much of the regulatory work within the reservation. To summarily duplicate the state regulatory program from the ground up and then try to staff the program with competent regulatory personnel will likely prove to be too great a challenge to development. On April 12, 2012 — the day I wrote this paragraph — twenty-eight rigs were operating on the reservation. In areas where both the Bakken and Three Forks formations are economic, as many as twelve wells could be drilled on a single 1280 acre unit. Recall again North Dakota had comprehensive oil and gas conservation laws and regulations in place a decade before the first barrel of oil was produced in the state. On the other hand, history suggests tribes should be skeptical of federal help — witness the federal government's outrageous breach of its fiduciary duty to tribes and to allottees in accounting for oil, gas, and resource revenues.[7] Only the Osage Indians in Oklahoma, who manage their own oil and gas resources, have avoided federal mismanagement. As for all tribes, the fundamental question for the Three Affiliated Tribes is how best to balance the desire for more tribal sovereignty with the desire for economic development.

Professor John Nagle's article is another reminder that resource development of any kind comes at a price. Oil and gas development presents unique challenges, as the resulting air pollution comes from thousands of sources scattered throughout the oil patch. Fortunately, some — perhaps the worst — of this pollution is relatively short-term. After wells are drilled and the gas is captured and saved, instead of flared, the more serious pollution sources become more concentrated in gas processing and petrochemical facilities. Pollution from these sources can be more easily controlled, provided the public demands control.

John Herrick and Cara Elias present a comprehensive view of the role the United States government plays in providing incentives to capital-intensive energy development. While I agree that "incentive," rather than

7. *See generally* Cobell v. Salazar, 573 F.3d 808 (D.C. Cir. 2009) (discussing the mismanagement of Individual Indian Money trust accounts by the Department of the Interior).

"subsidy," is the more correct term, the fundamental problem with energy development in the United States has been energy politics. For example, rather than providing incentives to facilitate the use of natural gas as a transportation fuel, Congress elected to provide incentives for ethanol, a fuel that is far less "green" than natural gas. As another example, the federal government has provided tax incentives for the purchase of electric cars. While an electric vehicle sounds appealing, natural gas-powered vehicles are much more feasible and sensible. All that is needed is a network of natural gas filling stations.

For electric vehicles to become something other than a second or third car — at least in rural states — better and lighter batteries are needed to store the electric power used to propel the vehicle. Indeed, we need better batteries so wind and solar power can be more efficient and reliable. I am skeptical new batteries have to be small enough and light enough to fit into vehicles. If large, heavy batteries could be developed to store wind and solar generated power, and if natural gas could be widely used as a transportation fuel, this country would begin to have a coherent and sensible energy policy.

Wind installations could fall by ninety-five percent next year if federal tax subsidies for wind, expiring at the end of 2012, are not renewed.[8] In addition to the potential loss of this subsidy, wind-energy investment is being hurt by low natural gas prices. Today, electricity generated from natural gas is subsidized at the rate of sixty-three cents per megawatt-hour. Wind energy is subsidized at the rate of fifty-two dollars per megawatt-hour, a whopping eighty-two times the subsidy rate for natural gas. Solar energy, on the other hand, is subsidized at the rate of $968 per megawatt hour![9] To be fair, if natural gas prices recover, wind energy may be close to being competitive with natural gas, but natural gas is not dependent upon sufficient wind, and although not emission free, natural gas is far cleaner than coal, especially when used in a combined cycle facility. Wind energy requires back-up generation from conventional energy sources when the wind is not blowing, just as for solar when the sun is not shining. Gas can be used to generate electricity 24-7. Gas is not as "green" as wind and solar, but gas is fifty to seventy percent cleaner than coal.

Of course, federal politicians are not the only ones who make foolish energy-policy choices. In Oklahoma, where I now live, the state legislature inexplicably enacted a fifty percent income tax credit as an incentive for the

8. Liz Hoffman, *Wind Industry May Be Doomed Without Subsidy, Experts Say*, LAW 360, Mar, 25, 2012, http://law360.com/m/projectfinance/articles/323284.

9. Benjamin Zycher, *Clean Energy: The Race To Waste*, THE AM., Jan. 25, 2012, http://blog.american.com/2012/01/clean-energy-the-race-to-waste/.

purchase of electric automobiles in addition to a $3500 federal income tax credit. This turned out to be a boon for GEM, the small electric car manufactured in Fargo, North Dakota. Tax-conscious Oklahomans took advantage of these combined federal-state incentives and acquired small electric cars that were nearly free, and I drive one to the law school each day. What is remarkable about the Oklahoma program is this electric-car incentive was enacted in a state where natural gas is the state's largest energy resource and where it would be very feasible, with some incentives, to create a statewide grid of natural-gas refueling stations to power automobiles and trucks. The benefits would be increased use of what is now low-priced natural gas that burns fifty to seventy percent cleaner than the coal used to generate power for small electric cars. Unlike many so-called conservative critics of government programs, I do not question the idea of government picking winners, but I must question when government picks losers.

Professor Paddock and Lea Colasuonno address the need to answer the threshold question for the siting on any major project. What is the state's resource inventory? Without having an answer to that question, the appropriate siting of major projects cannot be formalistically calculated. Funding such an inventory is a reasonable investment for a resource-rich state and may foster wiser land-use decisions generally.

Three additional articles help round out the symposium issue. In light of the EPA's announced $1.9 million dollar study to review the impact of hydraulic fracturing on drinking water and groundwater, Heather Ash considers North Dakota's oil and gas regulations with those of other oil rich states and argues North Dakota's regulations need to evolve and be modernized to ensure the risk of groundwater contamination is mitigated. A.L. Parlow next uses some North Dakota examples to provide an interesting perspective on the future of the United States' energy policy. Finally, Christel Croxen considers the recent North Dakota Supreme Court case, *Irish Oil & Gas, Inc. v. Riemer*,[10] which held the statute of frauds is not a defense to a tort claim for deceit, even when the underlying damages resulted from an unenforceable contract.

I congratulate the North Dakota Law Review for paying close attention to North Dakota energy development. As a native of North Dakota, as a lawyer for the state beginning during the boom of the mid-1970s and early 80s, as a professor of oil, gas, and natural resources at UND and now at Oklahoma, and as a North Dakota landowner, I trust voters and officials will make wise decisions for the future of the state and its people.

10. 2011 ND 22, 794 N.W.2d 715.